

Table S4. Perl modules

| module | function |
|--|---|
| prepareData.pl prepareData_dir.pl | Calculate the similarity scores between GO categories |
| obtainStatistics.pl | Provide a summary of the distribution of the similarities and the number of pairs with similarities over the corresponding threshold. |
| multiCluster.pl multiCluster_dir.pl | Iteratively merge pairs and generate new nodes for a given threshold. Note that one GO category can appear in several new nodes. |
| collapseCIM.pl collapseCIM_dir.pl | Regenerate CIMs according to the new nodes. |

The modules whose names contain “_dir” are the versions that are used for the “default” mode.